

### **REMARKS**

The Office Action dated October 28, 2005, has been received and carefully noted. The above amendments to the specification, and claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-6 are presently pending in the application, of which claims 1-4 and 6 are independent claims. Claims 2-4 have been amended to place them in independent form. Claim 1 has been amended to more particularly point out and distinctly claim the invention. Support for the amendments to claim 1 may be found, for example, at page 7, lines 14-18 of the specification. Claim 6 has been added. Claim 6 is supported by the originally filed figures and by originally filed claims 1-5. No new matter has been added. Claims 1-6 are respectfully submitted for consideration.

#### **Allowable Subject Matter**

Applicant thanks the Examiner for the indication that claims 2-4 contain allowable subject matter. Claims 2-4 have been rewritten in independent form. Accordingly, it is respectfully submitted that claims 2-4 are presently in condition for allowance.

#### **Rejection under 35 U.S.C. 102(b)**

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,465,384 of Heshmat et al. ("Heshmat"). Applicant respectfully submits that claim 1 recites subject matter that was neither disclosed nor suggested in Heshmat.

Claim 1 is directed to a foil bearing including a stationary mount member surrounding an outer circumferential surface of a journal of a rotating member via an annular gap, a plurality of centripetal force producing foils arranged in the annular gap so as to oppose a substantially entire part of the outer circumferential surface of the journal, and a sheet-shaped foil placed between the outer circumferential surface of the journal and the plurality of the centripetal force producing foils and having one end secured to an inner side of the stationary mount member and the other end extending substantially in a cylindrical shape to wrap around the journal. The stationary mount member is provided with a plurality of circumferentially arranged through-holes at an axially middle portion thereof. The centripetal force producing foils comprise members which are axially spaced apart from each other at a position where the through-holes are located whereby when the rotating member rotates, an air supplied through the through-holes of the stationary mount member flows through a space between the axially spaced-apart members of the centripetal force producing foils to hit against an outer surface of the sheet-shaped foil.

Applicant respectfully submits that claim 1 recites subject matter that was neither disclosed nor suggested in Heshmat.

Heshmat is directed to a high load, whirl free, foil journal bearing. In Heshmat, the foil sandwich making up each module is secured at one end to the inner wall of the bearing sleeve by means of a weld joint 22 that is disposed axially along the sleeve. The trailing body section of the sandwich is circumferentially wrapped about the shaft and a

small space 23 is furnished between the two ends of the sandwich. Space 23 is designed to permit the bearing to move in compliance with the shaft and to provide relief to high pressure fluid constrained beneath the bearing.

As noted in the present specification, the present invention can provide improved cooling efficiency as compared to the foil of Heshmat.

Claim 1 recites “a sheet-shaped foil placed between the outer circumferential surface of the journal and the plurality of the centripetal force producing foils ...[and] air supplied though the through-holes of the stationary mount member flows through a space between the axially space-apart members of the centripetal force producing foils to hit against an outer surface of the sheet shaped foil.” This sheet shaped foil is not required to be axially separated at the position whether the through holes are located. The sheet-shaped foil is illustrated in the specification at p. 7, ll. 14-18. Heshmat does not disclose or suggest this element of claim 1. In Heshmat, three bump foils 21 in three modules 16-18 are axially separated from each other at positions aligned with the feed holes 37 formed in the sleeve wall. Top foils 20 are also separated at positions aligned with the feed holes 37 and are overlapped by the corresponding bump foils 21. Therefore, the air fed through the feed holes 37 passes through the relief channels 36 between the modules and does not hit against an outer surface of the top foils 20. Thus, Heshmat does not disclose or suggest “a sheet-shaped foil placed between the outer circumferential surface of the journal and the plurality of the centripetal force producing foils ...[and] air supplied though the through-holes of the stationary mount member flows through a space

between the axially space-apart members of the centripetal force producing foils to hit against an outer surface of the sheet shaped foil.” Accordingly, it is respectfully requested that this rejection be withdrawn.

#### **Rejection under 35 U.S.C. 103(a)**

Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Heshmat. The Office Action states that Heshmat does not include a circumferentially extending groove. However, the Office Action asserts that the use of such a groove to connect input feeding is “notoriously old and well known.” Because claim 5 depends from claim 1, the same differences described with respect to claim 1 prevent Heshmat from rendering the claim obvious. Accordingly, claim 5 is patentable for at least the reasons that claim 1 is patentable. It is respectfully noted that although certain mechanical features may be old, it does not necessarily follow that it would be obvious to combine them one with another. Nevertheless, in view of the differences between claim 1 and the cited reference, it is respectfully submitted that whether such a groove would have been an obvious modification is moot. Accordingly, it is respectfully requested that this rejection be withdrawn.

#### **New Claim**

Claim 6 has been added. As explained above, claim 6 is supported by the original figures and original claim 1. Accordingly, no new matter has been added. It is

respectfully submitted that claim 6 recites subject matter that is neither disclosed nor suggested in the prior art of record.

### **Conclusion**

In view of the arguments and amendments presented above, it is respectfully submitted that each of claims 1-6 recites subject matter that is neither disclosed nor suggested in the prior art of record. Accordingly, it is respectfully requested that all of claims 1-6 be allowed, and that this application be passed to issue.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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